AMENDMENTS TO THE CLAIMS

1-20. (canceled)

21. (previously presented) A method of increasing the battery life of an alternating current iontophoretic device used to transport a compound of interest through a localized region of a patient's body tissue, comprising:

(a) applying an alternating current to a localized region of the body tissue having an inherent barrier limiting the transport of compounds therethrough, the alternating current generated using an alternating current iontophoretic device and applied at a level sufficient both to decrease the electrical resistance of the body tissue to a target resistance level and to maintain the electrical resistance of the body tissue at said target level; and

(b) either prior to, during, or both prior to and during application of the alternating current, delivering to the localized region of body tissue an amount of at least one barrier-modifying agent effective to alter the penetration barrier so as to reduce the voltage level necessary to achieve and maintain said target resistance level thereby facilitating transport of a compound of interest across the body tissue;

wherein the barrier-modifying agent is effective to reduce the voltage required to achieve and maintain said target electrical resistance by at least 20% as compared to the voltage required to achieve and maintain said target electrical resistance in the absence of the barrier-modifying agent.

22. (previously presented) The method of claim 21, wherein the barrier-modifying agent is effective to reduce the voltage required to achieve and maintain said target electrical resistance by at least 50% as compared to the voltage required to achieve and maintain said target electrical resistance in the absence of the barrier-modifying agent.

23. (previously presented) The method of claim 22, wherein the barrier-modifying agent is effective to reduce the voltage required to achieve and maintain said target electrical resistance by at least 70% as compared to the voltage required to achieve and maintain said target electrical resistance in the absence of the barrier-modifying agent.

24. (previously presented) The method of claim 21, wherein the body tissue is skin.

25. (previously presented) The method of claim 21, wherein the body tissue is mucosal tissue.

26-27. (canceled)

28. (currently amended) A~~The~~ method of increasing the battery life of an alternating current iontophoretic device used to transport a compound of interest through a localized region of a patient's body tissue~~claim 27~~, comprising:

(a) applying an alternating current to a localized region of the body tissue having an inherent barrier limiting the transport of compounds therethrough, the alternating current generated using an alternating current iontophoretic device and applied at a level sufficient both to decrease the electrical resistance of the body tissue to a target resistance level and to maintain the electrical resistance of the body tissue at said target level; and

(b) either prior to, during, or both prior to and during application of the alternating current, delivering to the localized region of body tissue an amount of at least one barrier-modifying agent effective to alter the penetration barrier so as to reduce the voltage level necessary to achieve and maintain said target resistance level thereby facilitating transport of a compound of interest across the body tissue;

wherein the alternating current is applied at a voltage level ~~is~~ in the range of about 1 V to about 10 V.

29. (previously presented) The method of claim 28, wherein the alternating current applied is in the range of about 0.1 to 10 V and about 0.01 to 0.5 mA/cm^2.

30-44. (canceled)

45. (previously presented) A method of increasing the battery life of an alternating current iontophoretic device used to transport a compound of interest through a localized region of a patient's body tissue, comprising:

(a) applying an alternating current to a localized region of the body tissue having an inherent barrier limiting the transport of compounds therethrough, the alternating current generated using an alternating current iontophoretic device and applied at a level sufficient both to decrease the electrical resistance of the body tissue to a target resistance level and to maintain the electrical resistance of the body tissue at said target level; and

(b) either prior to, during, or both prior to and during application of the alternating current, delivering to the localized region of body tissue an amount of at least one barrier-modifying agent effective to alter the penetration barrier so as to reduce the voltage level necessary to achieve and maintain said target resistance level thereby facilitating transport of a compound of interest across the body tissue;

wherein the alternating current is applied to the localized region of the body tissue for a time period in the range of approximately 10 minutes to greater than 24 hours.

46-61. (canceled)

62. (previously presented) The method of claim 45, wherein the barrier-modifying agent is delivered to the localized region of body tissue prior to step (a).

63. (previously presented) The method of claim 45, wherein the barrier-modifying agent is delivered to the localized region of body tissue during step (a).

64. (previously presented) The method of claim 45, wherein the barrier-modifying agent is delivered to the localized region of body tissue both prior to and during step (a).

65. (previously presented) The method of claim 45, wherein the barrier-modifying agent is selected from the group consisting of fatty acids, fatty alcohols, bile acids, bile salts, nonionic surfactants, anionic surfactants, cationic surfactants, amphoteric surfactants, hydrocarbon solvents, esters, amides, pyrrolidones, sulfoxides, cyclodextrins, N-alkyl-azacycloalkanones, N-alkyl-azacycloalkenones, urea, alkyl-substituted urea, dialkyl-substituted urea, aryl-substituted urea, diaryl-substituted urea, terpenes, and combinations thereof.

66. (previously presented) The method of claim 65, wherein the barrier-modifying agent is selected from the group consisting of fatty acids, fatty alcohols, bile acids, nonionic surfactants, anionic surfactants, pyrrolidones, and combinations thereof.

67. (previously presented) The method of claim 66, wherein the barrier-modifying agent is a fatty acid.

68. (previously presented) The method of claim 67, wherein the fatty acid is selected from the group consisting of arachidic acid, arachidonic acid, behenic acid, capric acid, caproic acid (n-hexanoic acid), caproleic acid, caprilic acid, docosadienoic acid, docosahexaenoic acid, docosapentaenoic acid, eicosadienoic acid, eicosahexaenoic acid, eicosapentaenoic acid,

eicosatrienoic acid, elaidic acid (*trans*-9-octadecanoic acid), eleosteroic acid, erucic acid, heneicosanoic acid, heptacosanoic acid, heptadecanoic acid, heptanoic acid, hexacosanoic acid, isostearic acid, lauric acid, lignoceric acid, linoleic acid, linoelaidic acid, α-linolenic acid, γ-linolenic acid, myristic acid, myristoleic acid, neodecanoic acid, nervonic acid, nonacosanoic acid, nonadecanoic acid, octacosanoic acid, oleic acid, palmitic acid (n-hexadecanoic acid), palmitoleic acid, pelargonic acid, pentadecanoic acid, pentacosanoic acid, petroselenic acid, phytanic acid, stearic acid, triacontanoic acid, tricosanoic acid, tridecanoic acid, and undecanoic acid, vaccenic acid, and combinations thereof.

69. (previously presented) The method of claim 68, wherein the fatty acid is selected from the group consisting of capric acid, lauric acid, oleic acid, and combinations thereof.

70. (previously presented) The method of claim 66, wherein the barrier-modifying agent is a fatty alcohol.

71. (previously presented) The method of claim 70, wherein the fatty alcohol is selected from the group consisting of behenyl alcohol, cetyl alcohol, elaidyl alcohol, erucyl alcohol, isostearyl alcohol, lauryl alcohol, myristyl alcohol, oleyl alcohol, palmitoleyl alcohol, petroselinyl alcohol, stearyl alcohol, and combinations thereof.

72. (previously presented) The method of claim 66, wherein the barrier-modifying agent is a bile acid or bile salt.

73. (previously presented) The method of 72, wherein the barrier-modifying agent is selected from the group consisting of cholic acid, deoxycholic acid, lithocholic acid, chenodeoxycholic acid, ursodeoxycholic acid, taurocholic acid, taurodeoxycholic acid, taurolithocholic acid, taurochenodeoxycholic acid, tauroursodeoxycholic acid, glycocholic acid, glycodeoxycholic acid, glycolithocholic acid, glycochenodeoxycholic acid, glycoursodeoxycholic acid, sodium cholate, sodium taurocholate, sodium glycocholate, sodium deoxycholate, sodium taurodeoxycholate, sodium glycodeoxycholate, sodium ursodeoxycholate, sodium chenodeoxycholate, sodium taurochenodeoxycholate, sodium taurochenodeoxycholate, sodium N-methyl taurocholate, and combinations thereof.

74. (previously presented) The method of claim 66, wherein the barrier-modifying agent is a nonionic surfactant.

75. (previously presented) The method of claim 74, wherein the nonionic surfactant is selected from the group consisting of esters of fatty acids; C_6-C_{22} alkyl esters of monohydric alcohols, diols, and polyols; C_6-C_{22} alkenyl esters of monohydric alcohols, diols, and polyols; diols esterified with a fatty acid and with a polyoxyalkylene; polyols esterified with a fatty acid

and with a polyoxyalkylene; polyoxyalkylene fatty acid esters; polyoxyalkylene fatty ethers; polyglyceryl fatty acid esters; and combinations thereof.

76. (previously presented) The method of claim 75, wherein the nonionic surfactant is selected from the group consisting of cetyl lactate, myristyl lactate, lauryl lactate, isostearyl lactate, stearyl lactate, ethyl lactate, isopropyl myristate, isopropyl palmitate, ethyl linoleate, isopropyl linoleate, methyl laurate, ethyl oleate, isopropyl n-decanoate, isopropyl myristate, isopropyl palmitate, sucrose monooleate, cholesterol stearate, octyldodecyl myristate, propylene glycol dilaurate, propylene glycol monooleate, propylene glycol dioctanoate, propylene glycol dicaprylate, propylene glycol dicaprate, glycerol monolaurate, glycerol monooleate, glycerol monostearate; the sorbitan fatty acid esters sorbitan monopalmitate, sorbitan monooleate, sorbitan dioleate, sorbitan trioleate, sorbitan sesquioleate, sorbitan isostearate, sorbitan diisostearate, sorbitan tristearate, and sorbitan monolaurate; the sucrose fatty acid esters sucrose monooleate, sucrose monostearate, sucrose monolaurate, sucrose distearate, sucrose dipalmitate, sucrose monopalmitate, polyoxyethylene glyceryl fatty acid esters, polyoxypropylene glyceryl fatty acid esters, polyoxyethylene sorbitan fatty acid esters, polyoxypropylene sorbitan fatty acid esters, diethyleneglycol lauryl ether, polyoxyethylene fatty ethers, polyglyceryl fatty acid esters; and combinations thereof.

77. (previously presented) The method of claim 66, wherein the barrier-modifying agent is an anionic surfactant.

78. (previously presented) The method of claim 77, wherein the anionic surfactant is selected from the group consisting of sodium n-dodecyl sulfate, dialkyl sodium sulfosuccinates, sodium lauryl sulfate, sodium 7-ethyl-2-methyl-4-dodecyl sulfate, lithium n-dodecyl sulfate, sodium dodecylbenzene sulfonate, sodium oleate, sodium caprate, sodium laurate, sodium lauryl sarcosinate, sodium dioctyl sulfosuccinate, sodium caproate, sodium caprylate, sodium myristate, sodium myristolate, sodium palmitate, sodium palmitoleate, sodium ricinoleate, sodium linoleate, sodium linolenate, sodium stearate, sodium tetradecyl sulfate, sodium lauryl sarcosinate, sodium docusate, and combinations thereof.

79. (previously presented) The method of claim 66, wherein the barrier-modifying agent is a pyrrolidone.

80. (previously presented) The method of claim 79, wherein the pyrrolidone is selected from the group consisting of 2- pyrrolidone, N-methyl-2- pyrrolidone, 5-methyl-2- pyrrolidone, N-ethyl-2- pyrrolidone, 1,5-dimethyl-2- pyrrolidone, N-hexyl-2- pyrrolidone, N-benzyl-2-pyrrolidone, N-phenyl-2- pyrrolidone, N-lauryl-2- pyrrolidone, 4-carboxy-N-methyl-2-pyrrolidone, 4-carboxy-N-hexyl-2- pyrrolidone, 4-carboxy-N-lauryl-2- pyrrolidone, 4-methoxycarbonyl-N-methyl-2- pyrrolidone, 4-methoxycarbonyl-N-hexyl-2- pyrrolidone, 4-methoxycarbonyl-N-lauryl-2- pyrrolidone, 2- pyrrolidone-5-carboxylic acid and the decyl, oleyl and dodecyl esters thereof, N-farnesyl-2- pyrrolidone, 3-hydroxy-N-methyl-2- pyrrolidone,

methylthioethyl pyrrolidone, 1-[2-(decylthio)ethyl]azacyclopentan-2-one, 2-mercaptoethylpyrrolidone, 1-dodecyl-2- pyrrolidone, 3-dodecyl-2- pyrrolidone, and combinations thereof.